December 21, 2005
MEMORANDUM

To: Permit Reissuance File

From: Christine Joyce, Permit Writer

Subject: Site inspection of Dominion – North Anna Power Station VA0052451

The purpose of this memo is to detail the facility site inspection conducted of subject facility on October 14, 2005 by Christine Joyce and Tom Faha, Water Permit Manager. Dominion representatives present included Joyce Livingstone, Environmental Specialist III and A. Carter Cooke, Senior Environmental Compliance Coordinator.

This facility is a two unit nuclear station supplying Dominion Virginia Power with more than 20 percent of its total generation. It is the largest nuclear station in Virginia and can generate almost 2 million kilowatts of electric power per day.

The facility consisted of internal and external outfalls. Effluent at external outfalls appeared clear and of normal appearance. Internal outfalls and stormwater outfalls were within restricted areas and were not observed. The following table 1 lists the outfalls observed. All outfalls ultimately discharged out of Outfall 001 at Dike 3 with a total discharge flow of 2057 MGD. Outfall 001 discharges to Lake Anna.

Table 1

Outfall #	Description	Outfall Latitude and Longitude
001 **Observed**	Discharge of Condenser Cooling Water from WHTF at Dike 3.	38° 00' 30" N 77° 43' 43"W
009 **Observed**	Ground Water, Storm Water, and Backwash from Sand Filters and Reverse Osmosis Units.	38° 03' 47" N 77° 47' 56"W
013 **Observed**	Turbine Building Sump #1 and Storm water.	38° 03' 47" N 77° 47' 56"W
014 **Observed**	Drainage Area #31 (Stormwater Only).	38° 03' 47" N 77° 47' 56"W
016 **Observed**	Intake Screen Wash Water.	38° 03' 47" N 77° 47' 56"W
020 **Observed**	Reverse Osmosis Reject.	38° 03' 47"N 77° 47' 56"W
021 **Observed**	Reverse Osmosis Drain Line.	38° 03' 47"N 77° 47' 56"W
022 ***Not Observed***	Drainage Area #2A (Stormwater Only).	38° 03' 55"N 77° 47' 55"W
023 ***Not Observed***	Drainage Area #2B (Stormwater Only).	38° 03' 53"N 77° 47' 58"W
024 ***Not Observed***	Drainage Area #3 (Stormwater Only).	38° 03' 58"N 77° 47' 44"W

Table 1 (cont'd)		
025 ***Not Observed***	Drainage Area #18 (Stormwater Only).	38° 03'08"N 77° 47' 25"W
026 ***Not Observed***	Drainage Area #25 (Stormwater Only).	38° 03' 50"N 77° 48' 05"W
103 *Not* ***Observed***	Process Waste Clarifier.	38° 03' 47" N 77° 47' 56"W
104 **Observed**	Oil/Water Separator & Stormwater.	38° 03' 47" N 77° 47' 56"W
105 **Observed**	Bearing Cooling Tower Blowdown.	38° 03' 47"N 77° 47' 56"W
107 ***Not Observed***	Bearing Cooling System Discharge – Lake to Lake Operation.	38° 03' 47"N 77° 47' 56"W
108 ***Not Observed***	Service Water Overflow.	38° 03' 47" N 77° 47' 56"W
109 ***Not Observed***	Hot Well Drain Unit 1.	38° 03' 47"N 77° 47' 56"W
110 ***Not Observed***	Hot Well Drain Unit 2.	38° 03' 47"N 77° 47' 56"W
111 **Observed**	Main Sewage Treatment Plant.	38° 03' 47"N 77° 47' 56"W
112 ***Not Observed***	Steam Generator Blowdown Unit 1.	38° 03' 47"N 77° 47' 56"W
113 ***Not Observed***	Steam Generator Blowdown Unit 2.	38° 03' 47"N 77° 47' 56"W
114 **Observed**	Service Water Pipe Vault Drain.	38° 03' 47"N 77° 47' 56"W
115 ***Not Observed***	Service Water System Blowdown.	38° 03' 47"N 77° 47' 56"W

Observed: On the day of the visit, Outfall 001 at Dike 3 showed water levels at 250 ft. on the cold side, and 250.6 ft. on the hot side.

Requests made by permittee:
Outfall 103 – Mr. Cooke requested the outfall to be waived from sampling because of infrequent discharge.
Outfall 014 – Mr. Cooke requested the outfall to be waived from sampling because there are no industrial activities for the outfall, and the discharge could be represented by the storm water sampling.
Staff response:
Outfall 103 sampling frequency has been reduced to 1/Y due to good compliance record, large volume of dilution in the WHTF, and toxics monitoring performed at Outfall 001.
Outfall 014 sampling has changed to be consistent with storm water outfall sampling. With this permit cycle, Outfall 014 has been deemed to release storm water only from the back half of the outside of the turbine building. No industrial influence occurs.

Pictures of the facility were taken during the inspection and will be included in the permit file for future reference.

Outfall 104 – Oil/Water Separator & SW

Outfall 104 – Far view

Structure for Units 1&2

Detail of structure for Units 1&2

Bearing Cooling Tower (Outfall 105 is in basement)

Chemical additives for Bearing Cooling Tower

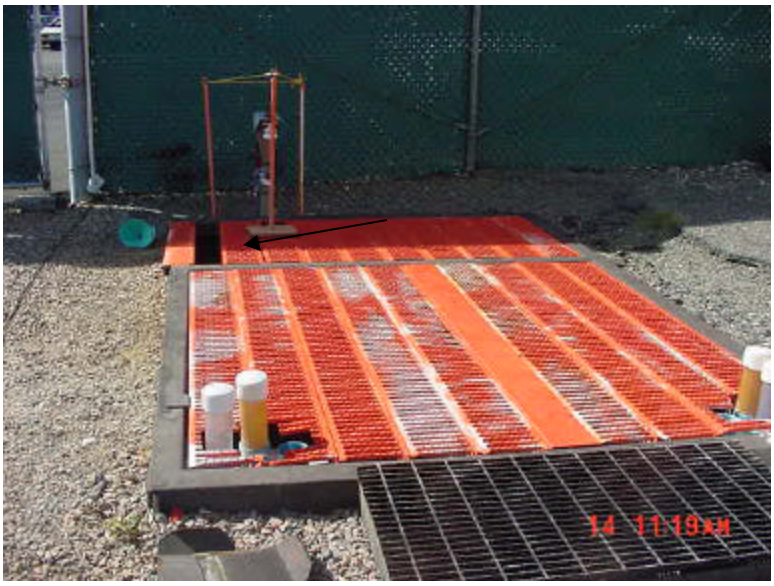
Outfall 020 – Reject for RO

Detail of pipe that leads to Outfall 020

Outfall 021 – Reverse Osmosis Drain Line

Outfall 013 – Turbine Bldg Sump 1 & 2 and SW

Outfall 016 - Intake Screen Wash Water



Outfall 111 - Main Sewage Treatment Plant: 2 chlorine contact tanks and final effluent. Samples taken at weir shown at arrow.

Clarifiers

Discharge Canal (ends at buoys). Lagoon 1 is in distance beyond buoys. Thermal monitoring performed at buoys.

Outfall 114 – Service Water Vault Drain

Service water reservoir

Settling pond leading to Outfall 009

Cont'd settling pond leading to Outfall 009

Outfall 009 - Pipe leading from settling pond

Outfall 014 – Storm water only

Outfall 001 (at Dike 3) – View of water level on side of Lake Anna – 250 ft.

Outfall 001 (at Dike 3) – View of water level on side of Lagoon 3 – 250.6 ft.

Lake Anna beyond Dike 3, with dam seen in distance

Another view of Lake Anna beyond Dike 3. Temperature monitored at buoys at arrow towards dam.